Module 2: What is Agile? Why use it?

TLO: Given a DoD program involved in software development, the student will recognize situations where applying agile development methods philosophy results in a positive benefit to the speed and efficiency of a software development effort.

ELOs

1 – Recognize Agile tenets and principles

2 – Recognize the characteristics of an agile environment.

3- Recognize common misconceptions of Agile

Assessment

MT – Agile principles are the foundation of “what is Agile” more than any one method or practice (ELO 1)

LP1 – X (ELO 1)

LP2 – Y (ELO 2)

MT - Agile is not a silver bullet, but there are conditions that could make it appropriate for use in a program (ELO 3)

LP3 – Z (ELO 3)

MT – Agile is not a license to de-value traditional approaches (ELO 3)

Module 3: Basic Agile Concepts – when and where to apply it

TLO: Given a contractor's development approach student will recognize alignment with agile principles

ELOs

1. Recognize conditions in the DoD environment that make it appropriate (or inappropriate) to consider Agile
2. Recognize what a program office would see in an Agile program vs a traditional one

Assessment

MT – Although not explicitly called out yet in DoD acquisition policy, there are many more enablers to using Agile in DoD today than there were 5 years ago (ELO 1)

LP – Contractors are regularly proposing Agile as a solution approach regardless of government systems engineering methodology (ELO 1)

MT – Agile projects increase visibility of actual project completion instead of waiting for a missed transition or software lifecycle event (ELO 2)

Module 4: Effect of Agile on the DoD Program Office

TLO: Given a DoD program involved in software development using Agile philosophy methodologies, the student will understand differences in roles that a Program Office may need to assume to enable program success

ELOs

1. Identify key characteristics of a PMO's staffing requirements within an Agile environment
2. Recognize the frequency of communication between PMO and stakeholders
3. Identify how the technical review process in an Agile environment impacts the ability of a PMO to mitigate program risk

Assessment

Module 5: Effect of Agile on Engineering & Test Staff

TLO: Given a DoD program involved in software development using Agile IPM methodologies, the student will understand differences in engineering and test roles to enable program success.

ELOs

1. Identify how program technical requirements are managed in Agile contracting settings
2. Identify how program baselines are managed in an Agile environment
3. Recognize key factors for developmental testing success in an Agile environment
4. Identify different ways that System Engineering Technical processes interact with Agile Software approaches

Assessment

LP - In Agile settings, low level requirements add who and why to the typical what of requirements, often using a format called a “story” (ELO 1)

LP - Requirements in an Agile contracting setting need to be prioritized in terms of the rank order of their value to the end user and other stakeholders (ELO 1)

MT - A requirements baseline that is at too low a level of abstraction is unproductive for an Agile contract setting (ELO 1)

MT - A capability-based Work Breakdown Structure makes developing and refining requirements in an Agile setting easier than using the more hardware-focused, but typical, component-based WBS (ELO 1)

MT - automated testing is a necessity, not an option, for any decent-sized Agile program (ELO 3)

Module 6: Effects of Agile on Pre-Contract Award

TLO: Given a DoD program involved in software development, the student will identify key pre-contract award activities needed to be effective in an Agile environment

ELOs

1. Identify pre-award characteristics of an acquisition strategy that allows for Agile solicitations
2. Recognize technical aspects that contribute to the evaluation of bidders on an Agile RFP
3. Identify the benefits and risks associated with various contract type(s) in an Agile environment

Assessment

MT - Make acquisition strategy language to allow for agile (ELO 1)

MT - Determining the contract type should be based on the understanding of system context, not the use of Agile approaches (ELO 1)

LP – Evaluate that the contractor has a logical approach for execution that accommodates Agile (ELO 2)

LP - Both sides need to understand Agile risks and associated mitigations (ELO 3)

MT - The Contract is only as good as the contracting relationship, leadership must foster environment for good and effective contract management in Agile environment (ELO 3)

MT - The contract type is not as important as incremental delivery and incremental review (ELO 3)

Module 7: Effect of Agile on Post-Contract Award

TLO: Given a DoD program involved in software development using Agile philosophy, the student will identify key post-contract award activities program analysis and oversight in an Agile environment

ELOs

1. Recognize the change in documentation delivery in an Agile environment.
2. Identify changes to the role of government agencies/oversight in programs using Agile.
3. Recognize the level of involvement required of stakeholders for Agile to be effective.
4. Recognize the applicability of EVM in an Agile environment.
5. Identify how progress is measured in an Agile environment.

Assessment

LP - Be careful what you ask for when receiving and reviewing CDRLs as multiple Levels of abstraction will exist in same package (ELO 1)

MT - Government oversight may require tailoring for an Agile environment (ELO 2)

LP - Stakeholder involvement increases in an Agile environment due to the rapid cycle of incremental planning, development, and review (ELO 3)

MT - Government's role in product management (and incremental acceptance of the product) is critical to success (ELO 3)

LP - Agile enables situational awareness across stakeholders and provide the ability to accurately measure and forecast performance (ELO 4,5)

MT - Stakeholders should be aware of the impacts of technical debt and the migration of work in an Agile environment (ELO 4,5)

MT - Objective technical completion criteria are essential for evaluating progress and performance regardless of the level at which the measurement occurs (ELO 5)

Module 8: Enabling an Agile Acquisition Culture

TLO: Given a decision to include Agile offerors in an acquisition, the student will recognize cultural enablers and inhibitors to Agile embedded in the RFP and responses.

ELOs

1. Discuss why Agile is considered a significant cultural change for DoD contracted programs.
2. Identify factors in typical acquisition organizational climate that enable or provide barriers to Agile practices adoption.
3. Identify Project, team, and customer environment factors that enable or provide barriers to Agile practices adoption.
4. Identify system, technology, and process support environment factors that enable or provide barriers to Agile practices adoption.
5. Provide an overview of the RFA process for understanding Agile adoption risks and enablers.

Assessment

- LP - In most cases, Agile adoption is a CULTURE change for government organizations, so strategy, structure, skills, and procedures will all have to be addressed (ELO 1)
- LP - Understanding the adoption category, especially of early pilots, helps you determine what support mechanisms are needed to promote a successful outcome (ELO 1)
- LP - Individuals, groups, and organizations all go through a predictable cycle of dealing with change, whether the change is perceived positively or negatively (ELO 1)
- MT - Understanding where you (and groups you interact with) are in the cycle is a key to helping people through to a New Status Quo (ELO 1)
- LP - Communication mechanisms (like training, case studies) support Contact, Awareness, & Understanding (ELO 1)
- LP - Implementation mechanisms (like checklists, measures) support Trial Use, Adoption, and eventually, Institutionalization (ELO 1)
- MT - Agile adoption just at “grass roots” level won’t change culture. A “leadership only” change won’t work either. Both channels have to be engaged, and using multiple sources for “why we should do this” (ELO 1)

Assessment

- LP - There are some specific acquisition factors for Agile (e.g. enabling interim, incremental delivery) that go beyond typical technology adoption factors (ELO 2)
- LP - “Alignment” is a key term for Organizational Climate and other categories of adoption enablers (ELO 2)
- alignment between the implementation and oversight,
- alignment between the Agile tenets and principles and those of the organization
- Alignment between the leadership and the managers and practitioners
- MT - Without the leadership vision, confusion about the adoption is apparent within the organization (ELO 2)
- MT - Although much Agile adoption focuses at the team level, the project and customer climate have significant effect on the program’s ability to execute an Agile development successfully, although some of the factors (e.g. appropriately trained staff) are factors in ANY successful program (ELO 3)
- LP - Although most of the Agile adoption enablers are focused on people issues, there are some aspects of the system being developed or evolved that have an effect as well (ELO 4)
- MT - Although “individuals and interactions over processes and tools” is an Agile Manifesto tenet, it’s also true that the most successful organizations adoption Agile have made appropriate investments in choosing the right Agile practices and supporting tools for their environments (ELO 4)